



Power Port 8FR – V3.02 Installation Notes

Fused power distribution module for access control with integral fire trip relay.

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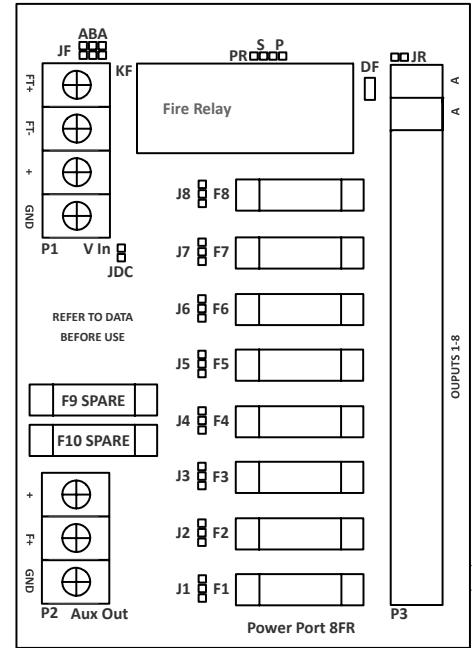


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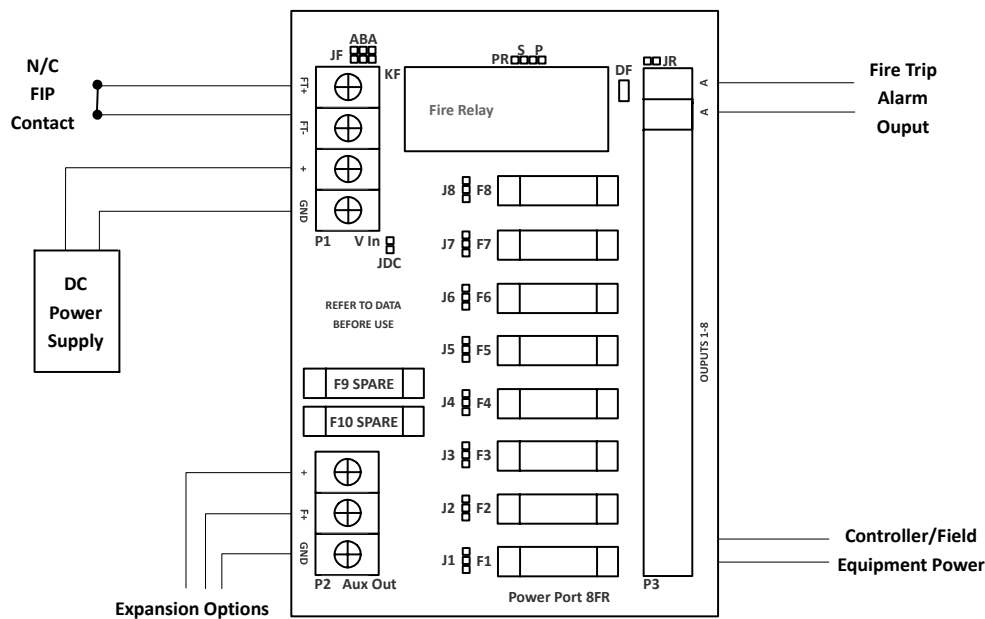
1) Mounting

The PP8FR module has eight 3.5mm mounting holes that can be used with non metallic M3 standoffs, self adhesive pillars or DIN rail clips. The PP8FR is also suited to a range of DIN rail mount 72mm PCB enclosures.

The recommended mounting option is two DIN rail mount clips that can be purchased with the PP8FR as a kit or separately.

2) Termination

The most common termination method is illustrated below; other options are outlined elsewhere in these notes.



The maximum diameter of cable for each terminal is outlined in section seven *Technical Data*. Fire trip interface relay and alarm setup is outlined in section four *Fire Relay Options*. For *Expansion Options* see section five.

3) Jumper Settings

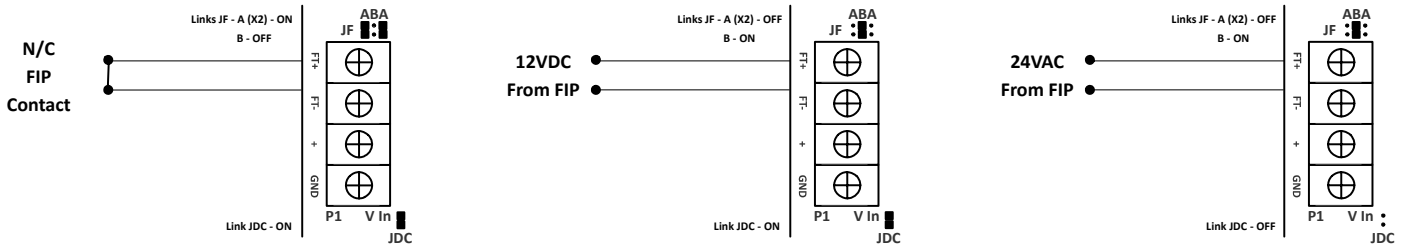
Warning: It is important to correctly set and check JF and JDC before applying fire trip or power to the PP8FR module. Incorrect jumper settings may cause damage to the module and other equipment.

Jumper/Link	Position	Description
J1-J8	Default	Associated output connected to supply power
	F	Associated output connected to supply power via fire relay
	Off	No power available to associated output
JR	On	Terminal A – A provides N/C fire relay contact
	Of	Terminal A – A provides fire relay status monitoring via EOL resistors
JF	A (X 2)	Fire trip interface N/C contact in fire panel
	B	Fire trip interface AC/DC voltage from fire panel
	Off	No power available to associated output
JDC	On	Protection diode connected (DC or N/C fire trip interface only)
	Off	Protection diode disconnected (AC fire trip interface only)

4) Fire Relay Options

4.1) Fire Trip Interface

The on board fire relay is designed to provide a failsafe method of fire trip interface. There are two options for connection to the FIP. (Fire Indication Panel) Either an N/C (Normally Closed) voltage free contact can be used or the FIP or other device can supply an AC or DC voltage. Both options are terminated directly to the FT+ and FT- terminals and links set to match (see section three). Correct polarity must be observed when using a DC voltage. Examples below.



4.2) Relay Selection

It is essential to select the correct relay for each application. The PP8FR accepts a range of popular DPDT (Double Pole Double Throw) plug in industrial power relays.

The selected relay must match voltage and current requirements. If using the N/C FIP interface method then a DC relay rated to the power supply voltage must be used.

If the AC/DC fire trip interface is used then the relay must match the AC/DC voltage supplied by the FIP or other device.

Warning: The contacts of the relay selected must have a current rating that matches or exceeds the required fire power current drawn from the outputs and any expansion options.

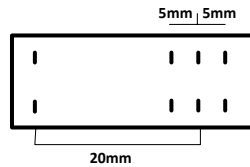
Examples:

An N/C FIP interface is used, the power supply is a 12VDC security supply. The total current draw for locks and controllers is 7A.

An appropriate relay for this application would be a 12VDC DPDT power relay with 8A contacts. JDC is set on and JF is set to position A (X2)

A 24VAC FIP interface is used, the power supply is 24VDC, the total current draw for locks and controllers is 8.5A.

In this case the power supply voltage is not relevant to relay selection as the fire relay is powered directly from the fire trip interface. A suitable relay would be a 24VAC DPDT model with 10A contacts. *JDC* is removed and *JF* is set to position *B*.



Relay pin layout viewed from below.

The relay socket accepts a plug in industrial power relay with a 5mm contact pin pitch. There are many suitable relays including but not limited to: Telemecanique Zelio RSB series, Finder 40/44 series, Song Chuan 845 series.

4.3) Alarm Contacts/Fire Trip Monitoring

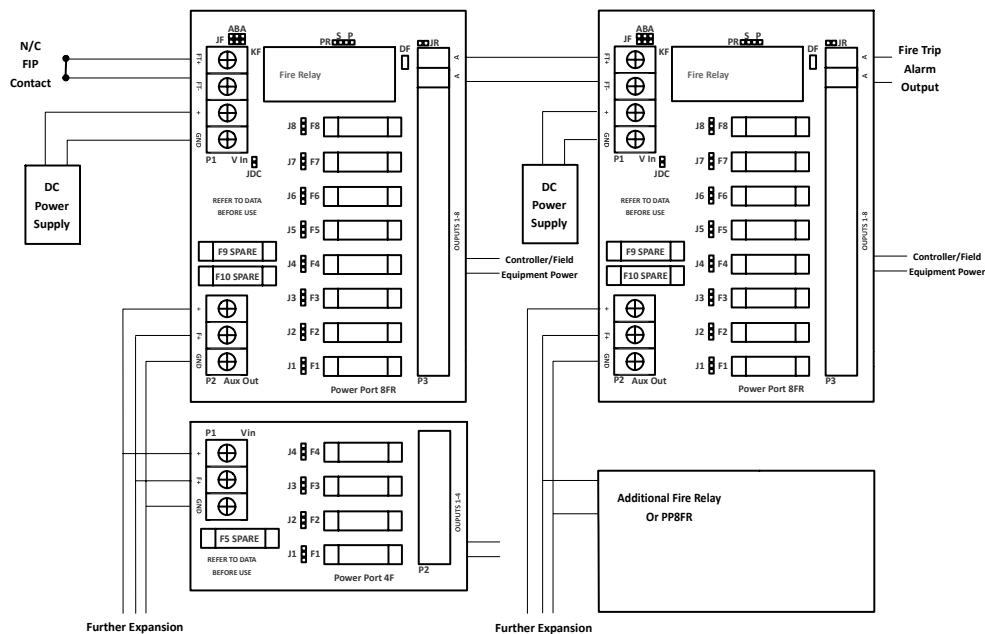
The terminals marked *A - A* are interfaced to the secondary contact of the fire relay. By setting *JR* to on, the terminals *A - A* provide an N/C contact for expansion or alarm monitoring (Maximum 2A)

By removing *JR* and installing EOL (End Of Line) resistors into the sockets marked *PR*, the terminals *A - A* provide a direct interface to a security panel input without the need to join or solder resistors. Resistor leads should be bent and trimmed to 3-4mm below resistor base. EOL resistors should be inserted before the fire relay is installed. See examples in diagram below. (P = Parallel EOL resistor, S = Series EOL resistor)



5) Expansion Options

Examples of several expansion options are outlined in the diagram below.



5.1) Additional Outputs

Additional fused power outputs can be added using the expansion board PP4F. One or more boards can be added as long as the total current drawn does not exceed PCB (10A) or fire relay limits.

If current draw exceeds limitations an additional PP8FR module can be used.

5.2) Additional Modules

The N/C auxiliary fire relay output (A – A) can be used to provide the fire trip for an additional PP8FR module. This allows expansion either locally or remotely to elsewhere in a building.

The fire trip for extra PP8FR modules can also be powered from the fire power output expansion terminals (P2) or from a fused output (P3)

5.3) Other Fire Equipment

Often there will be other equipment requiring a fire trip. Devices such as BMS components, auto doors, lifts and legacy security fire equipment can be given a fire trip interface either from the auxiliary fire relay output (A – A), from the expansion output or from a fused output.

6) Fuse Selection

M205 fuses are used for each output. Two spare fuse holders are available on board. The constant current drawn from an output must not exceed 2.5A however up to a 3A fuse may be used as the PP8FR can accept slightly higher output current for a very short time. Fuses must be selected to match field device, power supply and cable specifications.

A blown fuse is identified by the LED indicator turning off. Remove the blown fuse by gently levering out the fuse with a flat blade terminal screwdriver placed under the centre of the fuse, then clip in a replacement fuse of the same type and rating.

7) Technical Data

Input voltage range	0-48V DC
Fire relay coil voltage	0-48V AC/DC (depending on relay)
Max standard power current	10A
Max fire power current	10A (depending on relay rating)
Max constant current per output	2.5A
Max alarm contact current	2A
Fused outputs	8
Fuse type	M205
Mounting	Stand off or DIN rail mountable
On board spare fuse holders	2
Dimensions (without relay or mounting options)	110 L X 72 W X 21 H (mm)
Mounting holes	8 X 3.5mm (to suit M3 screws and bolts)

Connections

Terminal	Description	Max Conductor Size
(P1) FT - FT+	Fire panel trip interface	2mm ²
(P1) GND & +	DC power supply input	2mm ²
(P2)	Expansion output	2mm ²
(P3) 1 - 8	Fused outputs	1.5mm ²
(P3) A - A	Monitoring output	1.5mm ²
(PR)	EOL resistor sockets	1/4 -1/2 Watt resistors (X2)

LED Indicators

LED Designator	Description
D1-8	Fuse status, on indicates fuse intact and power is available.
DF	Fire relay status, on indicates relay is active and fire power is available.